

REMARKS

In the Official Action mailed on **1 November 2007**, the Examiner reviewed claims 1-27. Claims 1-7, and 10-18 were rejected under 35 U.S.C. § 112. Claims 1-27 were rejected under 35 U.S.C. § 103(a) based on Engbersen (US Pub. No. 2002/0009076 hereinafter “Engbersen”), Chan et al. (USPN 6,910,028 hereinafter “Chan”), and what was well-known in the art.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 1-27 were rejected as being indefinite. In particular, the Examiner avers that there is insufficient guidance toward claim language “various operations” and “single flow classification and dispatch step.” Accordingly, Applicant has deleted this claim language.

Rejections under 35 U.S.C. § 103(a)

Claims 1-27 were rejected as being unpatentable over Engbersen in view of Chan and further in view of what was well-known in the art. Applicant respectfully disagrees. Neither Engbersen nor Chan discloses identifying conflicts between higher priority rules and lower priority rules in a set of network service rules that are to be applied to packet flows and constructing a consistent set of network service rules with modified action lists, wherein each action list is modified by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

Rejection under Engbersen

Engbersen discloses a **classification method** for packets based on their destination addresses and origin addresses using range tokens (see par. [0023] and [0024] of Engbersen). Engbersen does not disclose prepending an action list of a higher priority rule to an action list of a rule with a filter that defines a longer

prefix. In fact, Engbersen **does not discuss action lists associated with rules** at all.

Examiner avers that Fig. 2, paragraph 32, and paragraph 61 of Engbersen disclose network service rules that specify a filter that defines a prefix for a set of packets in the packet flow and an action list that specifies one or more actions to be applied to the set of packets (see page 5, first paragraph of the Office Action). However, a close examination of the cited text and figure in Engbersen shows that Engbersen only describes **selecting a rule prefix** to allow longest-matching-prefix lookup. Nowhere in Engbersen are prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix mentioned.

Examiner also avers that Engbersen discloses identifying a conflict between a higher priority rule and a lower priority rule in the set of network service rules in Fig. 2, paragraph 32, and paragraph 61 (see page 5, ll. 4-6 of the Office Action). However, the recited text does not disclose identifying rule conflict. Noted that, although paragraph 32 of Engbersen mentions drawing a rule with higher priority to the top (see Fig. 2 and par. [0032] of Engbersen), Engbersen does not mention a rule conflict but a rule priority. Note that, “the top” and “the bottom” in Engbersen are referring to the hierarchy layer structure of the primitive range (see par. [0037] of Engbersen), which is used to govern the concatenation of range tokens (see par. [0049] of Engbersen). The concatenation of range tokens generated rule prefix (see par. [0056] of Engbersen) to later allows for longer prefix match.

Rejection under Chan

Chan discloses **merging** two or more rule sets based on a merge policy (see col. 4, ll. 16-30 of Chan). **Chan’s system does not resolve rule conflict by prepending an action list** of the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

Examiner avers that Chan discloses resolving the conflict by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix in col. 4, ll. 20-40, col. 9, ll. 40-50, and col. 10, ll. 10-20 (see page 5, the last paragraph of the Office Action). However, a close examination of the cited text does not render prepending action list of the higher priority rule to an action list with a lower priority rule. In fact, col. 10, ll. 10-20 of Chan teaches away from prepending anything to an action list by stating “...*if one rule has a higher priority than a second rule, then that rule will be **eliminated (defeated)**...*” Chan nowhere mentions prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix. In fact, **Chan does not discuss action lists associated with rules** at all.

In addition, the rules in Chan’s system are **business policies** (see col. 5, ll. 4 of Chan), and are not to be applied to network packet flows. The result of the conflict transformer in Chan’s system includes no conclusion, definite conclusion, **skeptical conclusion**, and a combination of definite and skeptical conclusions (see col. 8, ll. 33-41 of Chan). Thus, Chan’s system may not be able to resolve rule conflict.

In contrast, embodiments of the present invention identify conflicts between higher priority rules and lower priority rules in a set of network service rules that are to be applied to packet flows and construct a consistent set of network service rules with modified action lists, wherein each action list is modified by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix (see pars. [0059]-[0061], par [0099], pars. [00102]-[00105], and claim 1 of the instant application), and the rules are applied to packet flows (see par. [0062] of the instant application).

There is nothing in Engbersen or Chan, either explicit or implicit, which describes identifying conflicts between higher priority rules and lower priority rules in a set of network service rules that are to be applied to packet flows and

constructing a consistent set of network service rules with modified action lists, wherein each action list is modified by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix.

Although the Examiner avers that list ordering such that higher priority rules are listed first is well known in the networking art (see page 6, 3rd paragraph of the Office Action). Applicant respectfully submits that identifying conflicts between higher priority rules and lower priority rules in a set of network service rules that are to be applied to packet flows and constructing a consistent set of network service rules with modified action lists, wherein each action list is modified by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix, is different from listing rules with higher priority first, and is not well known in the art. Rule listing is different from action listing because **there might be multiple actions in an action list associated with one rule** (see pars. [0043] and [0050] of the instant application). In addition, simply listing rules **does not involve resolving conflicts**.

Accordingly, Applicant has amended claims 1, 10, and 19 to clarify that embodiments of the present invention identify conflicts between higher priority rules and lower priority rules in a set of network service rules that are to be applied to packet flows and construct a consistent set of network service rules with modified action lists, wherein each action list is modified by prepending an action list of the higher priority rule to an action list of a rule with a filter that defines a longer prefix, and the network service rules are applied to packet flows. These amendments find support in pars. [0062], [0099], and [00102]-[00105] of the instant application. No new matter has been added.

Hence, Applicant respectfully submits that Engbersen or Chan or the combination thereof fails to teach all of the elements in the independent claims. Applicant hence submits that independent claims 1, 10, and 19 as presently amended are in condition for allowance. Applicant also submits that claims 2-9,

which depend upon claim 1, claims 11-18, which depend upon claim 10, and claims 20-27, which depend upon claim 19, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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